

Model TFP MAX — 5.6 K-factor Institutional Horizontal Sidewall Sprinklers Quick Response, Standard Coverage

General Description

The Model TFP MAX, 5.6 K-factor, Institutional Horizontal Sidewall Sprinklers are quick response - standard coverage, spray sprinklers designed for use in areas such as correctional, detention, and mental health care facilities.

The unique features of the Model TFP MAX provide a tamper resistant sprinkler design that helps eliminate the opportunity for individuals to injure themselves or others with components of a fire sprinkler. At the same time, the Model TFP MAX optimizes an aesthetically appealing flush design that conceals most of the operating parts, and provides added protection for the heat sensitive glass bulb element.

WARNING

The Model TFP MAX Institutional Horizontal Sidewall Sprinklers described herein must be installed and maintained in compliance with this document, as well as with the applicable standards of the National Fire Protection Association, in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the integrity of these devices.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. The installing contractor or manufacturer should be contacted relative to any questions.

Sprinkler Identification Number

SIN TY3391

Technical Data

Approvals

UL and C-UL Listed for light and ordinary hazard occupancies. (Refer to the Design Criteria section.)
NYC under MEA 351-01-E.

Maximum Working Pressure

175 psi (12,1 bar)

Inlet Thread Connection

1/2 inch NPT

Discharge Coefficient

K = 5.6 GPM/psj^{1/2}
(80,6 LPM/bar^{1/2})

Temperature Ratings

135°F/57°C, 155°F/68°C, 175°F/79°C,
or 200°F/93°C

Finishes

Sprinkler: Chrome Plated
Escutcheon: Chrome Plated

Physical Characteristics

Body	Brass
Deflector	Bronze
Deflector Hood	Bronze
Deflector Post	Bronze
Deflector Post Pin	Bronze
Deflector Core	Bronze
Compression Screw	Bronze
Lever	Bronze
Release Spring	Bronze
Sealing Assembly	Beryllium Nickel w/ Teflon*
Bulb Insert	Bronze
Bulb	Glass
Dust Cover	Chrome Plated Steel

Patents

U.S.A. Patent No. 6,123,153 may be applicable to the Model TFP MAX Institutional Pendent Sprinklers.

Operation

In the standby condition, the design of the Model TFP MAX is such that a suspended load of 75 lbs. (34 kg) or



more applied to the linkage mechanism will release the sprinkler. Also, when properly installed, the escutcheon is held fast to the wall to deter its removal. The shape of the escutcheon cannot be easily grasped, which further deters tampering.

A glass bulb operating element is protected within the linkage mechanism of the Model TFP MAX. The bulb contains a fluid that expands when exposed to heat. When the rated temperature is reached, the fluid expands sufficiently to shatter the glass bulb. Shattering of the glass bulb releases the linkage mechanism that holds the sprinkler closed, allowing the deflector to extend outward and water to flow.

Design Criteria

The 5.6 K-factor, Model TFP MAX (SIN TY3391) Institutional Horizontal Sidewall Sprinklers are intended for use with fire protection systems designed in accordance with the standard installation rules recognized by the applicable Listing or Approval agency (e.g., UL Listing is based on NFPA 13 requirements). The TFP MAX (SIN TY3391) must be installed with a deflector to ceiling of 4 to 12 inches (100 to 300 mm). To meet this requirement

the centerline of the sprinkler waterway must be located 4-1/2 to 12-1/2 inches (114,3 to 317,5 mm) below the ceiling (Ref. Fig. 3).

Only the Institutional Escutcheons shown in Figure 2 can be utilized with the Model TFP MAX, and only a maximum of three Model 1752 Spacers can be utilized with Style B1 or D Institutional Escutcheons when horizontal adjustment is desired.

NOTES

The Sprinkler Body must not extend beyond the Institutional Escutcheon (Ref. Fig. 4). Otherwise the tamper resistant design of the Model TFP MAX will be compromised. Consequently, a maximum of three Model 1752 Spacers can only be used with Style B1 or D Institutional Escutcheons. The Model 1752 Spacers cannot be utilized with the Style E Institutional Escutcheons.

Integrity of the tamper resistant design of the Institutional Escutcheons is dependent on the piping installation design. When installed properly, the Institutional Escutcheon is held fast to the mounting surface by the tightening of the sprinkler assembly into the sprinkler fitting. In order to accomplish a proper installation, the sprinkler fitting must be properly located with respect to distance from the face of the sprinkler fitting to the face of the mounting surface (Ref. Fig. 2); the sprinkler fitting being rigidly secured and held immobile; and, the centerline of the sprinkler fitting being perpendicular to the mounting surface to assure that the escutcheon sits squarely against the mounting surface around the entire perimeter of the Institutional Escutcheon. Figure 3 illustrates a typical installation that can be utilized to help adjust the location of the sprinkler fitting; to help assure immobility of the sprinkler fitting; and, to help maintain perpendicularity of the sprinkler fitting to the mounting surface.

Installation

The 5.6 K-factor, Model TFP MAX Sprinklers must be installed in accordance with the following instructions:

NOTES

Refer to the Design Criteria section for important information regarding the piping installation design and its effect on maintaining the integrity of the tamper resistant design of the Institutional Escutcheons.

If the bulb within the linkage mechanism is cracked or there is a loss of liquid from the bulb, do not install the

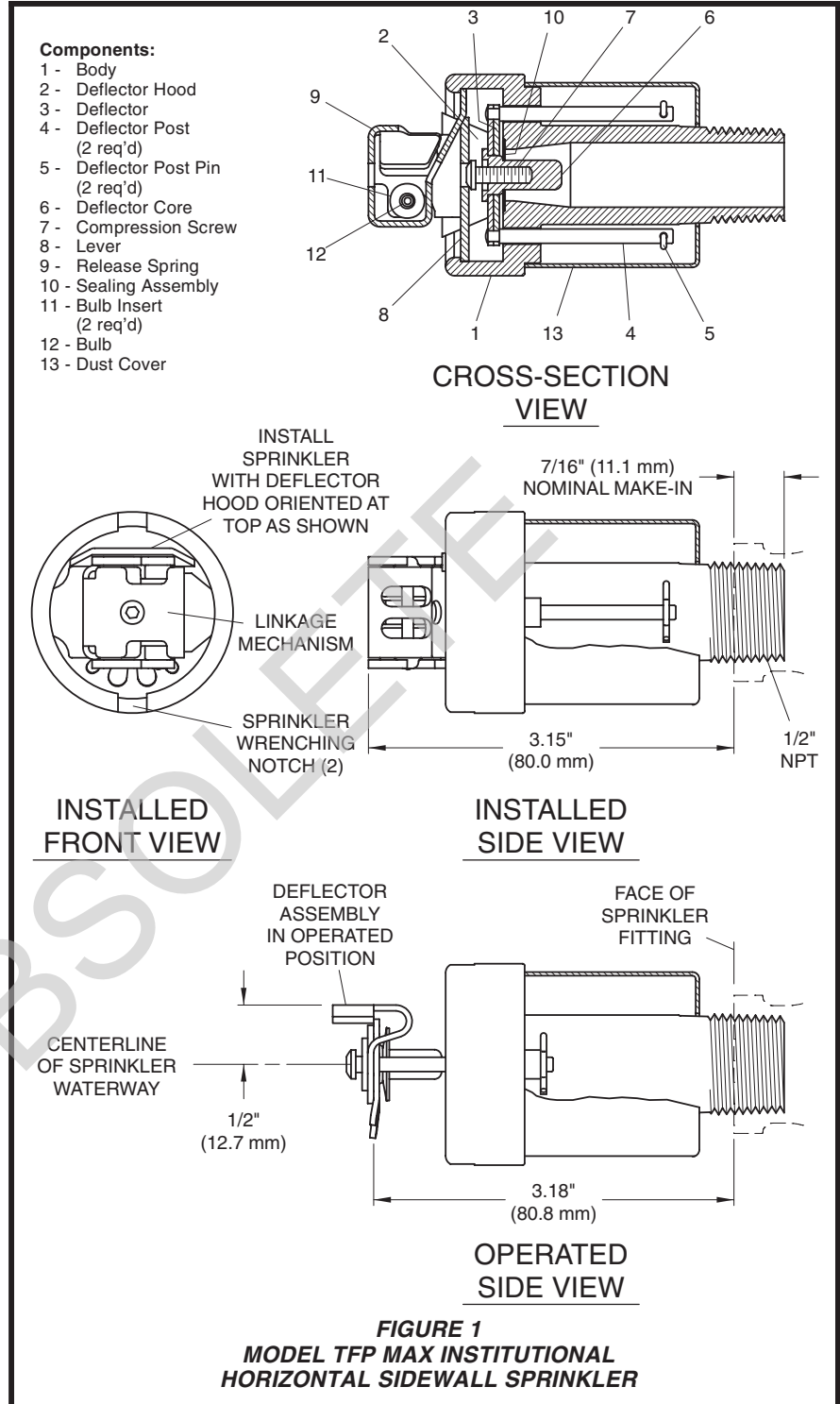


FIGURE 1
MODEL TFP MAX INSTITUTIONAL
HORIZONTAL SIDEWALL SPRINKLER

sprinkler. With the bulb in the horizontal position, an air bubble of approximately 1/16 inch (1,6 mm) diameter should be present.

A leak tight 1/2 inch NPT sprinkler joint should be obtained with a torque of 7 to 14 ft.lbs. (9,5 to 19,0 Nm). A maximum of 21 ft.lbs. (28,5 Nm) of torque is to be used to install these sprinklers. Higher levels of torque may distort the

sprinkler inlet with consequent leakage or impairment of the sprinkler.

Do not attempt to compensate for improper location of the sprinkler fitting by under- or over-tightening the sprinkler. Readjust the position of the sprinkler fitting to suit, or increase or decrease the number of Model 1752 Spacers, as applicable.

After the installation is complete, make

certain that the Institutional Escutcheon is held fast to the mounting surface and that it sits squarely against the ceiling around its entire perimeter.

Step 1. The TFP MAX Sprinklers must be installed horizontally with the centerline of their waterway perpendicular to the back wall surface, and the Deflector must be located with the top towards the ceiling (Ref. Figure 1).

Step 2. With the Institutional Escutcheon in place and with pipe thread sealant applied to the pipe threads, hand tighten the sprinkler into the sprinkler fitting.

Step 3. Wrench tighten the Sprinkler using only the Model 1509-3 Sprinkler Wrench (Ref. Fig. 5). The wrenching teeth of the Sprinkler Wrench are to be applied to the sprinkler wrenching notch areas (Ref. Fig. 1).

Step 4. After the installation is complete, make certain that the Institutional Escutcheon is held fast to the mounting surface and that it sits squarely against the wall around its entire perimeter.

NOTE

The Sprinkler Body must not extend beyond the Institutional Escutcheon (Ref. Fig. 4). Otherwise the tamper resistant design of the Model TFP MAX will be compromised.

Care and Maintenance

The 5.6 K-factor, Model TFP MAX Sprinklers must be maintained and serviced in accordance with the following instructions:

NOTES

Service inspections should be made on a regular basis to detect possible damage or alterations to the sprinkler and escutcheon. Inspections should include making certain that the Institutional Escutcheon is held fast to the mounting surface. Damaged or altered sprinklers are to be replaced immediately to avoid personal injury and to prevent use for causing personal injury, as well as to maintain the sprinkler system in an operative condition.

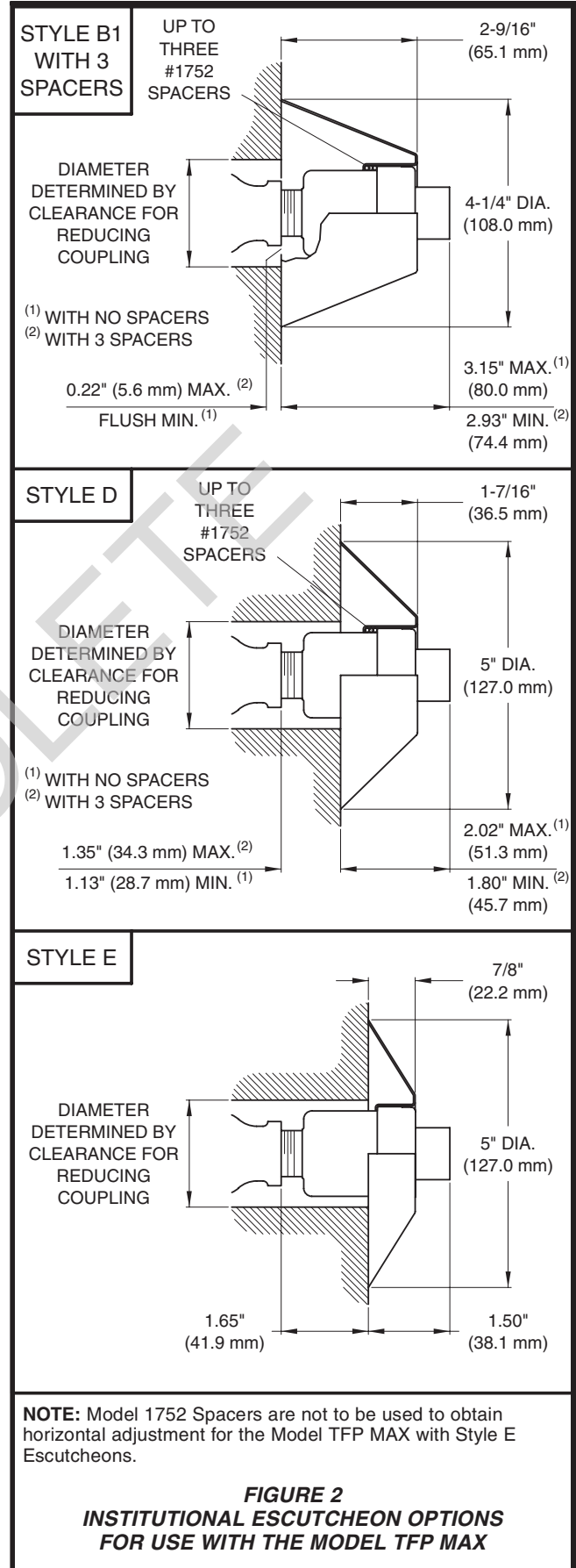
Before closing a fire protection system main control valve for maintenance work on the fire protection system that it controls, permission to shut down the affected fire protection systems must be obtained from the proper authorities and all personnel who may be affected by this action must be notified.

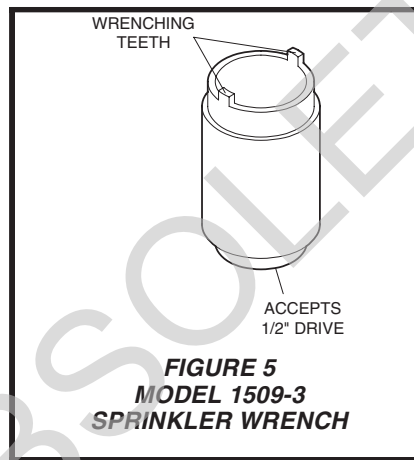
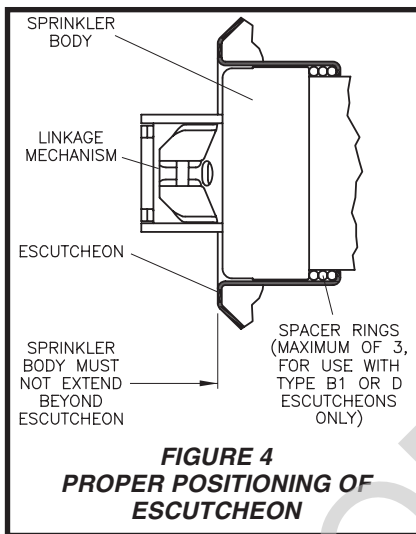
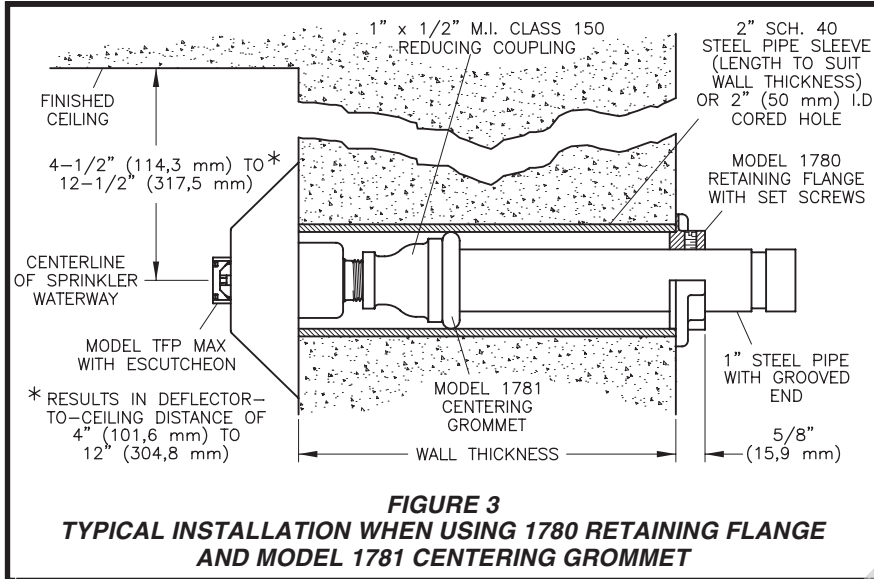
Sprinklers that are found to be leaking or exhibiting visible signs of corrosion must be replaced.

Automatic sprinklers must never be shipped or stored where their temperatures will exceed 100°F/38°C and they must never be painted, plated, coated, or otherwise altered after leaving the factory. Modified or over-heated sprinklers must be replaced.

Care must be exercised to avoid damage to the sprinklers - before, during, and after installation. Sprinklers damaged by dropping, striking, wrench twist/slippage, or the like, must be replaced. Also, replace any sprinkler that has a cracked bulb or that has lost liquid from its bulb (ref. Installation Section).

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the National Fire Protection Association (e.g., NFPA 25), in addition to the standards of any other authorities having jurisdiction. The installing contractor or sprinkler





manufacturer should be contacted relative to any questions.

It is recommended that automatic sprinkler systems be inspected, tested, and maintained by a qualified Inspection Service.

Limited Warranty

Products manufactured by Tyco Fire Products are warranted solely to the original Buyer for ten (10) years against defects in material and workmanship when paid for and properly installed and maintained under normal use and service. This warranty will expire ten (10) years from date of shipment by Tyco Fire Products. No warranty is given for products or components manufactured by companies not affiliated with ownership with

Tyco Fire Products or for products and components which have been subject to misuse, improper installation, corrosion, or which have not been installed, maintained, modified or repaired in accordance with applicable Standards of the National Fire Protection Association, and/or the standards of any other Authorities Having Jurisdiction. Materials found by Tyco Fire Products to be defective shall be either repaired or replaced, at Tyco Fire Products' sole option. Tyco Fire Products neither assumes, nor authorizes any person to assume for it, any other obligation in connection with the sale of products or parts of products. Tyco Fire Products shall not be responsible for sprinkler system design errors or inaccurate or incomplete information supplied by Buyer or Buyer's representatives.

IN NO EVENT SHALL TYCO FIRE PRODUCTS BE LIABLE, IN CONTRACT, TORT, STRICT LIABILITY OR UNDER ANY OTHER LEGAL THEORY, FOR INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL

DAMAGES, INCLUDING BUT NOT LIMITED TO LABOR CHARGES, REGARDLESS OF WHETHER TYCO FIRE PRODUCTS WAS INFORMED ABOUT THE POSSIBILITY OF SUCH DAMAGES, AND IN NO EVENT SHALL TYCO FIRE PRODUCTS' LIABILITY EXCEED AN AMOUNT EQUAL TO THE SALES PRICE.

THE FOREGOING WARRANTY IS MADE IN LIEU OF ANY AND ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Ordering Procedure

Contact your local distributor for availability.

Sprinkler Assemblies:

Specify: 5.6 K-factor, Chrome Plated, (specify temperature rating), Model TFP MAX (TY3391) Institutional Horizontal Sidewall Sprinkler.

135F/57C.....	P/N 51-107-9-135
155F/68C.....	P/N 51-107-9-155
175F/79C.....	P/N 51-107-9-175
200F/93C.....	P/N 51-107-9-200

Separately Ordered Escutcheons:

Specify: Style (B1, D, or E), Chrome Plated, Institutional Escutcheons, P/N (specify).

Style B1.....	P/N 56-001-7-511
Style D.....	P/N 56-001-7-514
Style E.....	P/N 56-001-7-515

Separately Ordered Wrenches:

Specify: Model 1509-3 Sprinkler Wrench, P/N 56-001-5-093

Separately Ordered Spacers For Horizontal Adjustment:

Specify: Model 1752 Spacers for use with Style B1 or D Institutional Escutcheons, P/N 56-000-1-752

Separately Ordered Parts For Installation In Concrete Walls:

Specify: Model 1781 Centering Grommet for installation in concrete, P/N 56-000-1-781.

Specify: Model 1780 Retaining Flange with Set Screws for installation in concrete, P/N 56-000-1-780.